

REMARKS

At the outset, Applicants acknowledge with appreciation Examiner Parsa's courtesy in conducting the November 18, 2004 personal interview. During the interview, Applicants' representatives and Examiner Parsa discussed the limitations of proposed amended independent claim 1, particularly the step of "recycling a stream comprising methanol and at least one of the compounds of methyl formate and ethanol into the liquid phase obtained in step (b)."

Claims 1-9 and 11-13 are pending in this application. Claims 1-4 have been amended. Claim 10 has been canceled and its limitations have been incorporated in amended independent claim 1. New claims 11-13 have been added. No new matter has been introduced.

Claims 2-4 are rejected under 35 U.S.C. §112, second paragraph, as being "indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention." (Office Action at 2). Specifically, the Examiner asserts that the recitation of both broad and narrow ranges in claims 2-4 render these claims indefinite. In response, claims 2-4 have each been amended to delete the narrow ranges, and the narrow ranges are now recited in newly added dependent claims 11-13. Applicants submit that the claims are now in full compliance with 35 U.S.C. §112.

Claims 1-9 are rejected under 35 U.S.C. §102(b) as being anticipated by Tierney et al. et al. (U.S. Patent No. 5,384,335) ("Tierney"). This rejection is respectfully traversed.

The claimed invention relates to a process for preparing methanol from a synthesis gas. As such, amended independent claim 1 recites a "process for preparing methanol from a synthesis gas" by *inter alia* "(a) passing the synthesis gas into a reactor containing a solid methanol conversion catalyst particles being suspended in a liquid phase of methanol and water," "(b) reacting the synthesis gas in presence of the suspended catalyst at a pressure and temperature, where methanol being formed on the catalyst condenses into the liquid phase" and "(c) withdrawing from the reactor a part of the liquid phase containing formed methanol product." Amended independent claim 1 also recites "(d) recycling a stream comprising methanol and at least one of the compounds of methyl formate and ethanol into the liquid phase obtained in step (b) to establish chemical equilibrium and to suppress formation of the at least one of the compounds."

Tierney relates to a "novel route for the synthesis of methanol . . . by contacting synthesis gas under relatively mild conditions in a slurry phase with a catalyst combination comprising reduced copper chromite and basic alkali salts or alkaline earth salts." (Abstract).

Tierney fails to anticipate the subject matter of claims 1-9. Tierney does not disclose, teach or suggest a "process for preparing methanol from a synthesis gas" by *inter alia* "(b) reacting the synthesis gas in presence of the suspended catalyst at a pressure and temperature, where methanol being formed on the catalyst condenses into the liquid phase" and "(d) recycling a stream comprising methanol and at least one of the compounds of methyl formate and ethanol into the liquid phase obtained in step (b) to establish chemical equilibrium and to suppress formation of the at least one of the compounds," as amended independent claim 1 recites. Tierney is silent about recycling a stream comprising methanol and at least one of methyl formate and ethanol, much

less about "recycling a stream comprising methanol and at least one of the compounds of methyl formate and ethanol into the liquid phase obtained in step (b) to establish chemical equilibrium and to suppress formation of the at least one of the compounds," as in the claimed invention. As emphasized by Tierney, "[t]he major by-product of this reaction is a small amount of highly volatile, easily separated, methyl formate." (Col. 6, lines 54-56). Thus, the methyl formate of Tierney is separated and not recycled, as in the claimed invention.

Applicants also submit that Tierney does not disclose, teach or suggest "recycling a stream comprising methanol and at least one of the compounds of methyl formate and ethanol . . . *to suppress formation of the at least one of the compounds,*" as amended independent claim 1 recites (emphasis added). In fact, Tierney teaches away from the claimed invention. Tierney teaches increasing the methanol formation by converting the methyl formate to methanol (employing methyl formate as an intermediate for methanol formation), and not suppressing the formation of methyl formate, as in the claimed invention. As described in Tierney, "[t]he methanol produced via this invention may be formed through a *methyl formate intermediate* or through a surface methoxy group attached to the heterogeneous copper chromite catalyst." (Col. 6, lines 37-40; emphasis added). Thus, Tierney teaches against the suppression of the formation of the methyl formate. For at least these reasons, the subject matter of claims 1-9 is not anticipated by Tierney, and withdrawal of the rejection of these claims is respectfully requested.

Applicants further submit that the subject matter of claims 1-9 would not have been obvious over Tierney in view of Konig. First, Tierney and Konig, whether considered alone or in combination, fail to disclose, teach or suggest all limitations of amended independent claim 1. None of the cited references discloses, teaches or

suggests the step of "(d) recycling a stream comprising methanol and at least one of the compounds of methyl formate and ethanol into the liquid phase obtained in step (b) to establish chemical equilibrium and to suppress formation of the at least one of the compounds," as amended independent claim 1 recites. Second, the references are not combinable as Tierney teaches a liquid state composition in "a slurry phase" (abstract), whereas Konig teaches "a synthesis gas" or "a product mixture that contains methanol vapor . . . withdrawn from the synthesis reactor" (col. 1, lines 8-10; lines 64-67; col. 2, lines 3-6). Accordingly, a person of ordinary skill in the art would not have been motivated to combine Tierney with Konig, to arrive at the claimed invention.

Allowance of claims 1-9 and 11-13 is solicited.

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